National Aeronautics and Space Administration
Lyndon B. Johnson Space Center
Houston, Texas

Hubble helpers

Four space walkers have ambitious Hubble Space Telescope servicing objectives. Story on Page 3.

Dear John

Mir Flight Engineer Jerry Linenger writes home to his 14-month-old son. Story on Page 4.

Space News Roundup

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Above: The first Texas longhorns to grace JSC pastures in more than 30 years leave their trailer and enter an 8-acre feedlot west of Rocket Park as JSC Director George Abbey and dignitaries from the Clear Creek Independent School District, the Houston Livestock Show and Rodeo's NASA-Clear Creek-Friendswood Metro Go Texan Subcommittee and the Texas Longhorn Breeders Association look on. Right: JSC Director George Abbey discusses the significance of the joint educational project during dedication ceremonies.

JSC Photos 97-01651 (top) by Karen Schmidt

Longhorns take stock of new home

Aerospace workers, trail riders, educators dedicate project

Trail riders and aerospace workers stood side-by-side, between rockets and range cattle on Feb. 5 as the first two steers came out of the chute and into their new 60-acre Longhorn Project tract behind Rocket Park.

Almost 1,000 people attended the dedication for the educational project—a joint effort by JSC, the Clear Creek Independent School District and the Houston Livestock Show and Rodeo's NASA-Clear Creek-Friendswood Metro Go Texan Subcommittee. They were joined by 120 horses and riders and 10 wagons that made up the Texas Independence Trail Riders who swung through the center on the way to this year's rodeo.

"I think it is going to be a great relationship with the Clear Creek independent school system," said JSC Director George Abbey. "Our people are very enthused about it, and I think the fact that it is really coming into being a real program now is a great thing."

John Wilson, superintendent of the Clear Creek Independent School District, said he believes the project, designed to give high school agriculture students first-hand experience with the latest in agricultural techniques and technology, will become a model for other projects around the country.

"All this would not be possible if a lot of people had not come together," Wilson said. "I think this is a unique opportunity for agriscience, for students to have a world-class experience in the shadow of rockets - what better imagery could we want? It's an exciting project that we think can be available not only to the students in Clear Creek Independent School District, but other students in the Houston area."

John Baker, national director of the Texas Longhorn Breeders Association which arranged the

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Discovery crew ready to service Hubble telescope

Astronauts Mark Lee and Steve Smith were expected to be wrapping up the first of four space walks planned for STS-82 this morning while Greg Harbaugh and Joe Tanner tried to get some rest before their Saturday space walk.

Discovery blasted off from Kennedy Space Center right on time at 2:55 a.m. CST Tuesday, arcing out over the Atlantic Ocean as their destination, the 12-ton Hubble Space Telescope, soared over central Africa at an altitude of about 320 statute miles.

"With a little luck in a couple of weeks, the best telescope in the universe will be even better than it is now," Commander Ken Bowersox said just before the pre-dawn launch.

As Bowersox and Pilot Scott "Doc" Horowitz maneuvered Discovery into position, Mission Specialist Steve Hawley was set to grapple the telescope with the shuttle's 50-foot-long robot arm at 2:16 a.m. Thursday, after more than three years since its last servicing and almost seven years since astronomer Hawley first deployed the orbiting observatory.

Hawley's next task was to lower the telescope onto its berthing platform and assure a good umbilical connection to the Flight Support System, which will provide electrical power for Hubble during its servicing.

Lee and Smith were scheduled to float out the hatch and into Discovery's cargo bay for the first space walk at 10:20 p.m. CST Thursday. Their first servicing task was to replace the Goddard High Resolution Spectrograph with the new Space Telescope Imaging Spectrograph, which is designed to extend Hubble's reach into the past by allowing it to look at the red-shifted light from stars and galaxies that formed just millions of years after the Big Bang, the theorized beginning of the universe.

Their next job was to remove the Faint Object Spectrograph and replace it with the Near Infrared Camera and Multi-Object Spectrometer, which will allow infrared imaging and limited spectroscopic observations of protostellar clouds, young star clusters and changes in planetary atmospheres over time.

JSC employees will be able to witness the Mission Control activities supporting the space walks. The MCC viewing room will be opened at 10:30 p.m. each space walk day, and the room will remain open for viewing as traffic warrants.

About 10:20 p.m. tonight, Harbaugh and Tanner are scheduled to begin the second extravehicular activity, replacing the faulty Fine Guidance Sensor and swapping out one of two Engineering and Science Tape Recorders.

The pair also is scheduled to install the Optical Control Electronics Enhancement Kit and remain in the payload bay while Bowersox and Horowitz conduct a 20-minute firing of the vernier reaction control system jets to begin reboosting Hubble into a higher orbit.

Saturday night, Lee and Smith will begin their second space walk, again about 10:20 p.m. Their tasks on the third space walk will be to replace the Data Interface Unit that routes data from the Optical Telescope Assembly electronics to the telescope's command and telemetry system and to replace the second Engineering and Science Tape Recorder with a new Solid State Recorder.

Next, they will replace a faulty Reaction Wheel Assembly that is used by scientists to point the telescope, and hold on for another 20-minute reboost maneuver.

The final planned space walk is to begin about 10:20 p.m. Sunday when Tanner and Harbaugh step out of the airlock for the second time. They will replace the old Solar Array Drive Electronics with a new package and work through the slow process of connecting all of its electrical cables. Next, they will replace the Magnetic Sensing System covers with new, permanent covers.

Their last task with be to clean up the cargo bay, sit through another set of reboost thruster firings and make sure that ground controllers are able to remotely redeploy Hubble's High Gain Antenna.

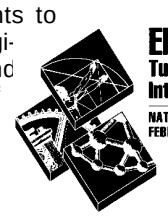
Hawley is to redeploy Hubble at 11:55 p.m. Monday for another three years of observations until its next servicing in December 1999.

Discovery's landing is scheduled for 12:51a.m. next Friday at KSC.

JSC engineers help students 'Discover E'

By Mae Mangieri

Within days, some 225 JSC civil service and contractor employees will visit more than 350 classrooms to encourage students to pursue careers in engineering, science and technology as part of a national outreach program called Discover "E" ("E" for Engineering) during National Engineers Week.



On the national level, National Engineers Week is held from February 16-22, but JSC's program extends throughout February so workers have the opportunity to visit as many classrooms as possible.

Although most of the volunteers include engineering and technical professionals, JSC employees, senior managers and retirees with other backgrounds also will visit classrooms.

Contractor employees will participate through the Education Program's ongoing partnership with educational liaisons from nine contractor companies including Barrios Technology, Hernandez Engineering, Johnson Controls, Krug Life Sciences,

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JSC Photo by Mae Mangieri

Jim Wade, an aerospace engineer in the International Space Station Independent Assessment Office, visits fourth and fifth graders at A.B. Freeman Elementary in the Pasadena Independent School District.

Dailey to address JSC employees on planning initiatives

By Doug Peterson

NASA Deputy Administrator Jack Dailey will visit JSC on Feb. 25 to speak to employees about the management and planning initiatives under way across the agency.

Dailey will address all hands at 9 a.m. in Teague auditorium. The meeting will include comments from a senior Human Exploration and Development of Space representative and a short video about agency planning narrated by Walter Cronkite.

In a memo about the recently released NASA Strategic Management Handbook, Administrator

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